

**AMENDMENTS IN THE CLAIMS**

**1. (currently amended)** A method used in equalization processing, comprising the steps of:

extracting, on the basis of a receive signal received from a transmission line, information on fluctuation of transmission line characteristics which fluctuate periodically according to an on-off state of a switching element in an apparatus that is connected to the transmission line on the basis of a receive signal; and

performing equalization processing while switching equalization characteristics in accordance with said fluctuation of transmission line characteristics.

**2. (original)** The method as claimed in claim 1, said step of extracting said information comprising the steps of:

receiving a reference signal which is sent from a send side; and

detecting a change point of said transmission line characteristics by using fluctuation of phase or amplitude of said reference signal.

**3. (original)** The method as claimed in claim 2, said method further comprising the steps of:

extracting a basic frequency signal of fluctuation period of said transmission line characteristics;

vectorizing said basic frequency signal into a vector;

adjusting phases of change point vectors corresponding to two change points such that said phases become symmetrical with respect to a reference phase;

comparing a component of said vector of said basic frequency signal with a reference value; and

outputting a switching signal for switching said equalization characteristics according to a result of said step of comparing.

**4. (original)** The method as claimed in claim 3, said method further comprising the steps of:

performing equalization processing for each interval of said fluctuation of transmission line characteristics on each corresponding receive signal;

comparing errors of said each corresponding receive signal on which said equalization processing has been performed; and

updating said reference value on the basis of a result of said step of comparing errors.

**5. (currently amended)** An equalization processing apparatus comprising:

a part extracting, on the basis of a receive signal received from a transmission line, information on fluctuation of transmission line characteristics which fluctuate periodically according to an on-off state of a switching element in an apparatus that is connected to the transmission line on the basis of a receive signal; and

a part performing equalization processing while switching equalization characteristics in accordance with said fluctuation of transmission line characteristics.

**6. (original)** The equalization processing apparatus as claimed in claim 5, said part extracting said information comprising:

- a part receiving a reference signal which is sent from a send side; and
- a part detecting a change point of said transmission line characteristics by using fluctuation of phase or amplitude of said reference signal.

**7. (original)** The equalization processing apparatus as claimed in claim 6, further comprising:

- a part extracting a basic frequency signal of fluctuation period of said transmission line characteristics;
- a part vectorizing said basic frequency signal into a vector;
- a part adjusting phases of change point vectors corresponding to two change points such that said phases become symmetrical with respect to a reference phase;
- a part comparing a component of said vector of said basic frequency signal with a reference value; and
- a part outputting a switching signal used for switching said equalization characteristics according to a result of comparing said component with said reference value.

**8. (original)** The equalization processing apparatus as claimed in claim 7, further comprising:

- a part performing equalization processing for each interval of said fluctuation of transmission line characteristics on each corresponding receive signal;

a part comparing errors of said each corresponding receive signal on which said equalization processing has been performed; and

a part updating said reference value on the basis of a result of comparing said errors.

**9. (original)** The equalization processing apparatus as claimed in claim 5, further comprising:

a plurality of equalization processing parts each corresponding different transmission line characteristics; and

a part switching said equalization processing parts in accordance with fluctuation of said transmission line characteristics.

**10. (original)** The equalization processing apparatus as claimed in claim 5, further comprising:

a part holding equalization processing parameters for different transmission line characteristics; and

a part setting said equalization processing parameters corresponding to specific transmission line characteristics in accordance with said fluctuation of said transmission line characteristics.